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Clayton
ENVIRONMENTAL
CONSULTANTS

May 18, 1992

Mr. Sam Yu
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Clayton Project No. 41184.00
CRWQCB File No. 105.0263

Subject: Workplan for Additional Investigation near the former Clarifier at Stoodly Company, 16425 East Gale Avenue, City of Industry, California

Dear Mr. Yu:

On behalf of Stoodly Company, Clayton Environmental Consultants, Inc. is submitting this to the California Regional Water Quality Control Board (CRWQCB).

This plan addresses the comments of Clayton's Soil Remediation Report of January 6, 1992 (Clayton Project No.37861.00) and outlines a proposed scope of work and procedures for the additional investigation required in the area of the former clarifier.

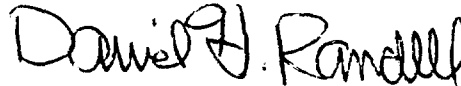
If you have any further questions, please contact me at (714) 229-4806.

Sincerely,



Guy Romine
Geologist
Pacific Operations

Sincerely,



David H. Randell, R.G.
Manager, Environmental Engineering
Pacific Operations

GR

cc: Martin Casper, Thermadyne Industries
Rick Williams, Stoodly Company
Jaswant Singh, Ph.D., Director, Pacific Operations

E41184.WP

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Work Plan
for
Additional Subsurface Soil Investigation
near the Removed Clarifier
at
Stoody Company
City of Industry, California

Clayton Project No. 41184.00
May 18, 1992

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1.0 INTRODUCTION

Stoody Company Inc. retained Clayton Environmental Consultants Inc., on July 22, 1991, to produce a remedial action plan (RAP) to perform soil remediation at their facility in the City of Industry, California (Figures 1 and 2). This work was requested by the California Regional Water Quality Control Board (CRWQCB) in a letter dated July 3, 1991. The RAP was revised according to CRWQCB correspondence dated August 22, 1991.

The remediation activities included the removal of an industrial clarifier and a sump, and the excavating of contaminated soil in both these areas. This RAP also included a description of a limited shallow soil investigation planned for a portion of the rear of the Stoody facility. This RAP was prepared in accordance with the scope of work and terms and conditions, set forth in Clayton's Proposal No. 91-SEE-099 dated July 18, 1991. Implementation of the RAP began on November 4, 1991. The Soil Remediation report was submitted for review by the CRWQCB on January 6, 1992.

Currently several issues have surfaced with regard to resolution of environmental concerns associated with the former clarifier in light of the soil remediation (RAP) report and a subsequent meeting with personnel from the CRWQCB.

The soil samples submitted for analysis from the clarifier excavation indicated that high levels of total recoverable petroleum hydrocarbons (TRPH) and acetone existed in the sidewalls and bottom of the excavation. Based on the remediation action levels cited by the CRWQCB, TRPH levels cannot exceed 10 parts per million (ppm). The concentration of TRPH averages 13,000 ppm for the eight samples collected. These results indicated that unacceptably high levels of TRPH still remain in the soil surrounding and below the excavation. CRWQCB personnel will likely require further excavation to remove soil containing TRPH at levels in excess of about 10 ppm.

The extent of contaminated soil near the clarifier is partially defined at this time; it appears to extend to the south, near the building foundation, and significantly further to the north away from the excavation, and deeper than the existing 17-foot depth. Estimates of the total volume of contaminated soil are difficult to make with the data collected, but could range between an additional 300 to 500 cubic yards.

On April 29, 1992, Clayton Environmental Consultants Inc., was retained by Stoody Company, to provide a work plan, and health and safety plan, to further assess the extent of soil contamination in the area of a former industrial clarifier at their facility in Industry, California (Appendix A, Figure 1). This work plan was requested by the CRWQCB, in a discussion held between Mr. Romine and Mr. Randell of Clayton, and Mr. Casper, of Thermadyne Industries and representatives from CRWQCB. The work plan was prepared in accordance with the terms and conditions and scope of

work set forth in Clayton's Proposal No. 92-SEE-060, dated April 13, 1992. The Health and Safety plan will be prepared and submitted under separate cover.

1.1 OBJECTIVES

Clayton has four objectives for this site assessment: (1) to produce a work plan and a health and safety plan, (2) to perform the site assessment work, (3) to assess the extent of the soil contamination in the area of the former clarifier, and (4) to assess if the contamination has spread under the building foundation.

1.2 SCOPE OF WORK

Clayton will complete the following scope of work to accomplish its objectives:

- Perform a soil investigation in the area of the former clarifier and inside the building foundation, with a minimum of five boreholes near the former clarifier, and two boreholes inside the building foundation.
- Collect and laboratory analyze soil samples from the boreholes.
- Prepare and submit an assessment report to the CRWQCB.

2.0 BACKGROUND

On March 16, 1988, the Stoodly Company facility was inspected by California Regional Water Quality Control Board (CRWQCB) staff member Mr. Dainis Kleinbergs. As a result of that inspection, Stoodly was directed to develop a general housekeeping plan and to conduct an initial subsurface soil investigation at their facility.

In June of 1988, Clayton Environmental Consultants, Inc. was retained by Stoodly to prepare the general housekeeping plan and the initial subsurface soil investigation workplan. On July 19, 1988, Clayton obtained approval of the proposed housekeeping plan and initial subsurface investigation workplan from Mr. Roy Sakaida of the CRWQCB. The initial subsurface investigation was implemented in July 1988.

On July 21, 1988, Clayton Environmental Consultants performed a site assessment at the Stoodly Company. Five soil boreholes (SB-1 through SB-5; Figure 2) were drilled to assess a chemical waste storage area, a chemical waste storage sump area, an electrical transformer area, and a general storage area. The boreholes were drilled to 10 feet below ground surface and sampled. Laboratory analyses revealed the

presence of total petroleum hydrocarbons (TPH), and a number of volatile organic compounds (VOCs).

Clayton's final report of that investigation was presented to the CRWQCB on October 19, 1988. Included with the soil investigation report was Stoodly's proposed groundwater monitoring workplan, as required by the CRWQCB.

Clayton began implementation of an initial groundwater monitoring work plan in January 1989, after receiving approval from both the CRWQCB and Stoodly Company. On January 23, 1989, Clayton advanced the previously drilled borehole SB-5 deeper and constructed a groundwater monitoring well (MW-3). Two other boreholes, SB-6 and SB-7, were drilled and sampled and groundwater monitoring wells were constructed. SB-6 is now known as MW-1. SB-7 is now known as MW-2. SB-5 is now known as MW-3. On March 6, 1989, a fourth groundwater monitoring well was installed upgradient of the other three wells (MW-4).

Laboratory analysis of the soil samples from MW-1 through MW-4 detected no TPH. The laboratory reported the detection of acetone and methylene chloride in the soil samples from MW-4, the upgradient well.

Laboratory analysis of the water samples from MW-1 through MW-4 detected the presence of eight different VOCs. The presence of those VOCs has stimulated a quarterly groundwater monitoring program by the CRWQCB separate from the apparent soil contamination concerns.

The report was sent to the CRWQCB after Stoodly's review on June 22, 1990. Quarterly Groundwater Reports followed in September 1989, December 1989, and June 1990.

In January 1990, Clayton was retained to sample and visually inspect the interior of the clarifier and to assess subsurface soil conditions adjacent to the clarifier and in the chemical barrel storage area. Both tasks were designed to meet the CRWQCB's request for additional investigation.

On January 18 and 19, 1990, Clayton performed an additional site assessment at Stoodly Company. Three 10-foot boreholes (SB-1 through SB-3) were drilled and sampled in a chemical storage area and two boreholes (SB-4 through SB-5) were drilled and sampled near the industrial waste clarifier.

The laboratory reported the detection of five VOCs in the soil samples collected in the boreholes in the chemical storage area. The laboratory reported the detection of eight VOCs in the soil samples collected from the boreholes near the clarifier, as well as TPH.

On December 26, 1990, Ms. Nicole Jafari, Industrial Engineer with Stoodly Company, authorized Clayton to perform a quarterly groundwater monitoring program for 1991 as required by the CRWQCB. Quarterly groundwater reports followed in January 1991; June 1991; September 1991, and December 1991.

On January 31 and February 1, 1991, Clayton performed additional site assessment work at Stoodly Company. Four exploratory boreholes, BH-10 through BH-13, and one additional groundwater monitoring well, MW-5, were drilled. Two of the boreholes, BH-10 and BH-11, were drilled at the industrial clarifier and MW-5 was installed immediately downgradient of the clarifier. Boreholes BH-12 and BH-13 were drilled in the area of the sump in the chemical storage area.

The laboratory reported the detection of five different VOCs, TPH, and three metals in the soil samples collected from the boreholes near the clarifier. The laboratory reported the detection of four VOCs, TPH, and three metals in the soil samples collected from the soil boreholes near the sump.

Additionally, in August 1991, Clayton completed a Remedial Action Plan that detailed the removal of the sump and clarifier in accordance with the CRWQCB requirements stated in their July 3, 1991, letter to Stoodly. Implementation of the RAP began on November 4, 1991. The RAP report was sent to the CRWQCB on January 6, 1992. Clayton and Stoodly representatives meet with CRWQCB personnel on April 6, 1992, to discuss alternatives for the continuation of remediation of the clarifier.

3.0 INVESTIGATION ACTIVITIES

The following sections present field procedures, field work, and laboratory analyses to meet the existing site constraints, the investigation objectives, and the requirements of the CRWQCB.

In addition, Clayton will prepare a site Health and Safety Plan in accordance with current Occupational Safety and Health Administration (OSHA) requirements as described in Code of Federal Regulations (CFR) 1910.120.

3.1 FIELD PROCEDURES

Clayton will follow specific field procedures to complete the field activities. The following subsections describe procedures for the soil investigation and the decontamination of equipment used in the field.

3.1.1 Soil Investigation Procedures

A truck-mounted drill rig with 6-inch to 8-inch outside diameter (O.D.) hollow stem augers will be used to drill the boreholes for the soil investigation inside the building. For each borehole, the auger will be advanced to the desired depth for sampling. Soil sampling will occur at 5-foot intervals starting at 5 feet below the existing surface grade. As the auger is advanced, the soil returns (drill cuttings) will be placed in DOT Class 17-H drums for proper disposal by Stooddy Company.

A split-barrel sampler will be used to collect soil samples. The sampler will contain three 6-inch long, 2-1/2 inch diameter brass sleeves inside it. At each sampling depth, the sampler will be placed inside the auger stem and then driven into the soil 18 inches. Soil penetration will be achieved by repeatedly dropping a 140-pound weight from 30 inches above the sampler onto the sampler. The sampler will then be retrieved from the borehole and the auger will be advanced to the next sampling depth. When the last sample is retrieved, the auger will be removed and the borehole will be abandoned. Abandonment procedures are described later.

The soil samples will be divided immediately upon retrieval. The second sleeve of soil will be removed from the sampler and sealed with aluminum foil, plastic end caps, and Scotch™ 33+ electrical tape. It will then be labeled, inserted in a self-sealing plastic bag, and placed on ice in an ice chest for transportation to a laboratory that is certified by the State of California, Department of Health Services, for analyses. Standard chain-of-custody procedures will be followed.

The first sleeve of the sampler will be field evaluated for volatile organic compounds using an organic vapor analysis (OVA) headspace technique. A portion of the contents of the second sleeve will be put into a self-sealing plastic bag and allowed to volatilize in direct sunlight for a minimum of 30 minutes. A sensor tip of a photoionization detection (PID) will then be inserted through the plastic bag. The concentration of VOCs in the plastic bag will be measured with the PID meter and recorded on the borehole logs.

The boreholes and soil samples will be described by a Clayton geologist under the supervision of a California registered geologist using the Unified Soil Classification System (USCS). The PID meter will also be used to measure breathing zone and borehole concentrations of VOCs during the drilling activities.

After the removal of all drilling and sampling devices from a borehole, the borehole will be backfilled to three feet below grade with rehydrated Volclay™ chips and then to grade with concrete. The same abandonment procedures will be followed for each borehole.

3.1.2 Decontamination Procedures

In order to minimize the potential for cross-contamination, decontamination procedures for the equipment used during the field work will be followed. The drilling augers and bits used in the drilling of the boreholes will be steam cleaned prior to drilling of a new borehole.

The equipment will be steam cleaned in a predetermined area. The water used in the steam cleaning and the rinsates from the cleaning procedures will be contained in Class 17-H, 55-gallon drums for storage and disposal by Stood Company.

Clayton will hand wash the sampling devices prior to all sampling events. They will be washed in an Alconox™ detergent solution, rinsed twice in potable water, and final rinsed in deionized water.

3.2 FIELD WORK

The field work to be performed is based on the results of the laboratory analysis of the soil samples collected during the Soil Remediation activities conducted in November 1991 and from the observations made in the field during that time. Field work will consist of soil investigation using a truck-mounted drilling rig in the area of the former industrial clarifier and inside the building foundation.

3.2.1 Industrial Clarifier Area

Two boreholes, BH-19 and BH-20, will be drilled on the north side of the former clarifier to a depth of approximately 30 feet below ground surface (Appendix A, Figure 3). Borehole BH-19 and BH-20 will be drilled to assess the maximum vertical extent of TPH in the soil and indicate lateral extent of the contamination to the north.

Boreholes BH-21 through BH-23 will be drilled to assess the extent of the TPH in the soil near the south side of the former clarifier and near the underground electrical lines. Borehole BH-21, BH-22, and BH-23 will be drilled about 4 to 6 feet north of the building's outside wall (Figure 3). Clayton anticipates that the depths of each of those boreholes will be about 6 to 10 feet. The distances of these boreholes from the building and their depths may vary depending upon field conditions.

3.2.2 Inside the Building Foundation

Two boreholes, BH-24 and BH-25, will be drilled vertically inside the building on the north side of the exterior wall to assess if soil contamination has spread under the building foundation (Appendix A, Figure 3). The depth of the boreholes are anticipated to be about 30 feet.

3.3 ANALYTICAL METHODS

Laboratory analyses of the soil samples from the previous site assessment revealed the presence of TPH, and VOCs. Based on those results Clayton has selected the following test methods for soil analyses:

- EPA Method 418.1 for TPH
- EPA Method 8240 for VOCs

Based on the previous site assessment work and the correspondence from the CRWQCB issued to Stoodly Company on October 22, 1990, Clayton will use the guidelines listed in Table 1 (Appendix A) as acceptable concentrations of contaminants to be left in the soil.

We plan to receive the laboratory analyses on a 7-day or less turnaround schedule from an off-site laboratory certified by the State of California Department of Health Services.

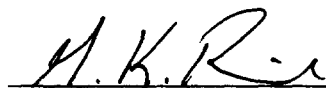
4.0 ASSESSMENT REPORT

Clayton will provide the CRWQCB with an assessment report after the field work and laboratory analyses have been completed. The report will document the activities described in this work plan and present the data gathered in this investigation. The report will also provide the CRWQCB with Clayton's interpretation of that data and its conclusions based on those interpretations.

5.0 LIMITATIONS

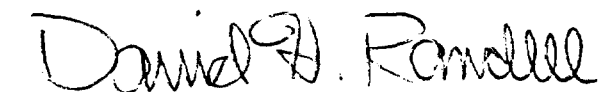
The information and opinions rendered in this report are exclusively for use by Stoodly Company. Clayton Environmental Consultants, Inc. will not distribute this report without Stoodly Company consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession but disclaim any responsibility for consequential damages.

This report submitted by:



Guy K. Romine
Geologist

This report reviewed by:



David H. Randell
Registered Geologist, No. 3977
Manager, Environmental Engineering
Pacific Operations

May 18, 1992

**Table
Remediation Action Levels**

Detected Chemical Constituents	Abbreviation	DHS or MCL ($\mu\text{g/L}$)	Cleanup Level** (mg/kg)
Organic			
Acetone	ACT	NA	NA
1,2-Dichloroethene (total)	1,2-DCE	0.5 MCL	.005
Cis-1,2-dichloroethene	Cis-1,2-DCE	6 MCL & DHS	0.06
Ethylbenzene	EB	680 MCL	6.80
Tetrachloroethene	PCE	5 MCL/DHS	0.050
Toluene	TOL	100 DHS	1.0
Trans-1,2-dichloroethene	TRANS-1,2-DCE	10 MCL & DHS	0.10
Trichloroethene	TCE	5 MCL	0.05
Total Recoverable Petroleum Hydrocarbons	TRPH	NA	10.0
Xylene, (total)	XYL	1750 MCL	17.5
Inorganic			
Chromium ⁺⁶	Cr ^{tot}	50 MCL	0.5
	Cr ⁺⁶	50 MCL	0.5
Copper	Cu	1000 MCL	10.0
Nickel	Ni	150 SNARL	1.5

**Cleanup levels shown are 10 times DHS or MCL and converted to mg/kg

$\mu\text{g/L}$: Microgram per liter, generally equivalent to parts per billion

mg/kg: Milligram per kilogram, generally equivalent to parts per million

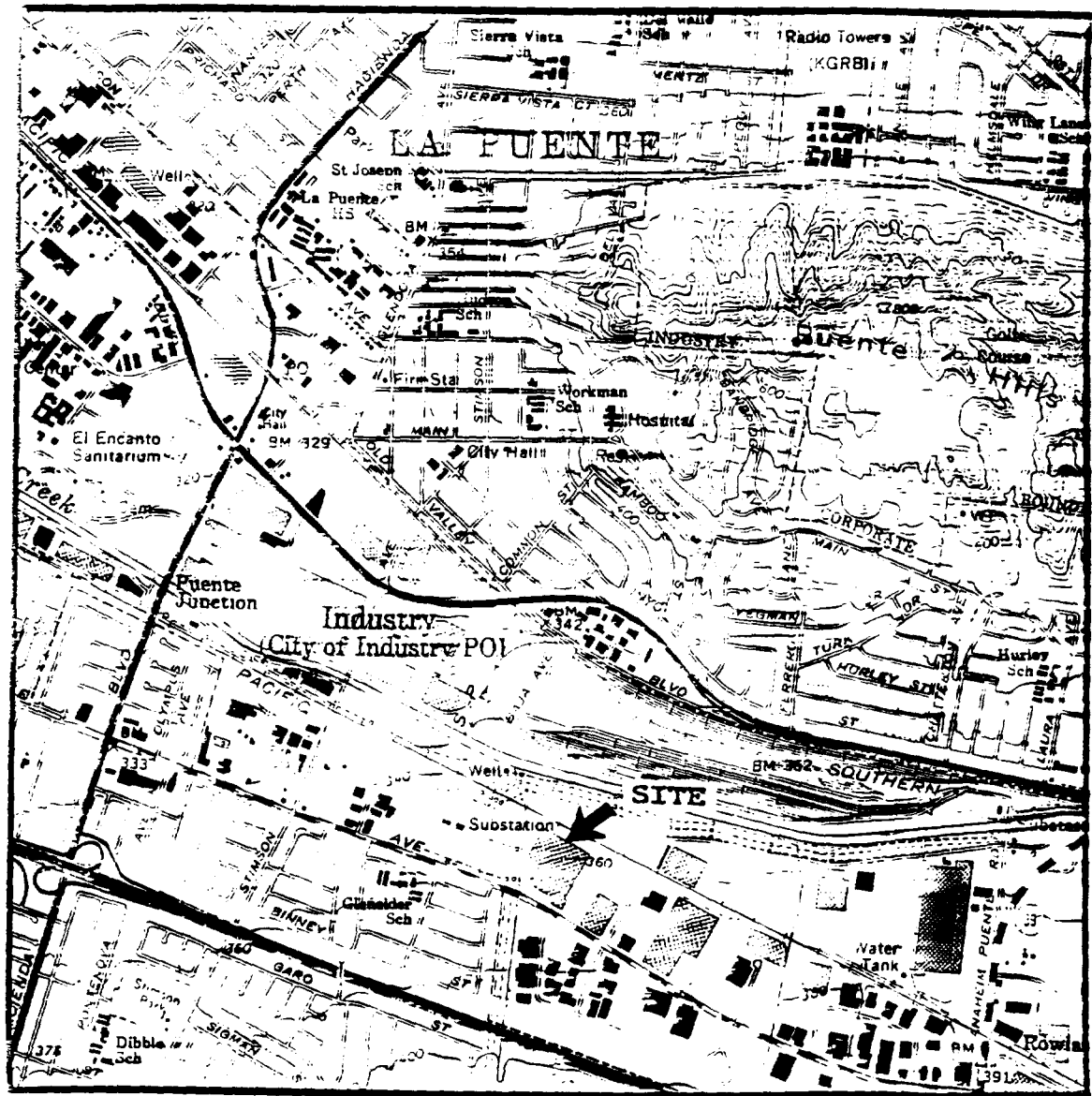
SNARL: Suggested no adverse response level

NA: Not available

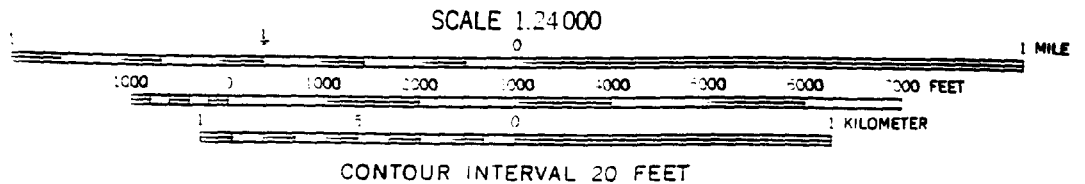
DHS: California Department of Health Services

MCL: EPA maximum contaminant level

APPENDIX
FIGURES AND TABLE



BASEMAP TAKEN FROM USGS 1966, BALDWIN PARK, CALIFORNIA
QUADRANGLE, 7.5 MINUTE SERIES (TOPOGRAPHIC), PHOTOREVISED 1981.



CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

FIGURE

GENERAL SITE LOCATION
AND TOPOGRAPHY

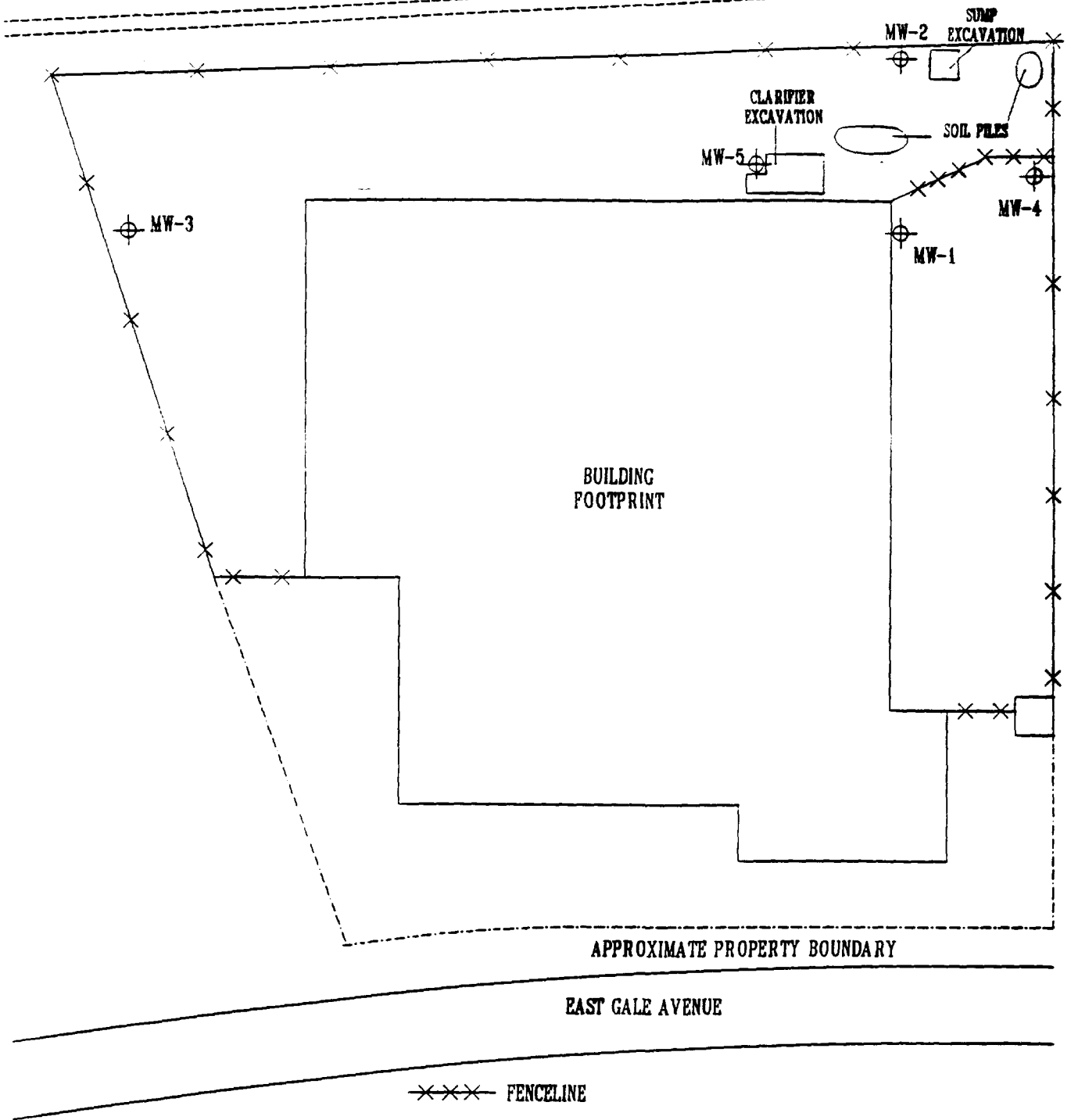
1

STOODY COMPANY
INDUSTRY, CALIFORNIA

PROJECT NO. 37861.00

1/92

SOUTHERN PACIFIC RAILROAD

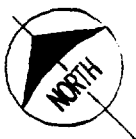


APPROXIMATE PROPERTY BOUNDARY

EAST GALE AVENUE

x x x x FENCELINE

DRAWING NOT TO SCALE



CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

FIGURE

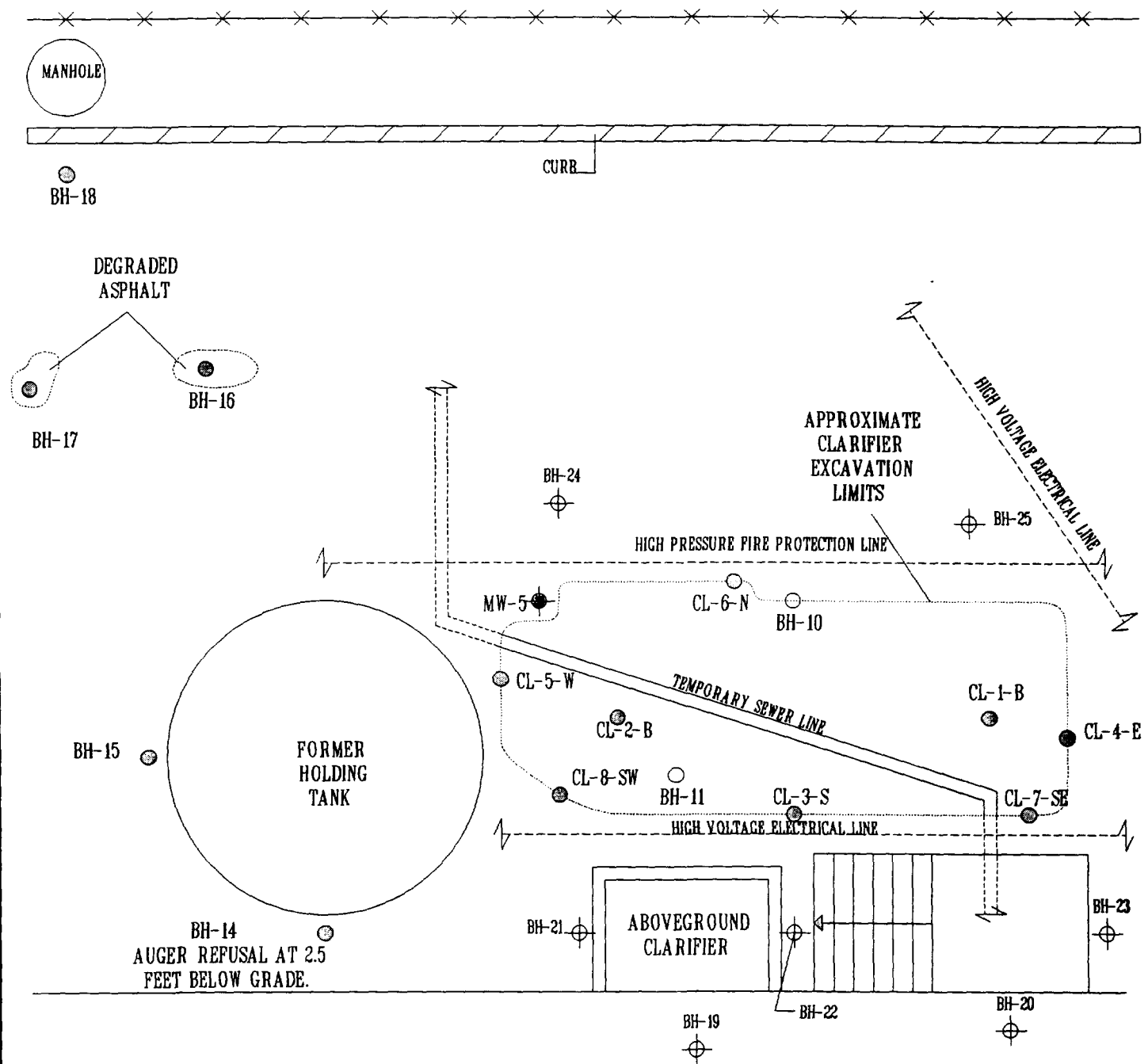
SITE LOCATION MAP

2

STOODY COMPANY
INDUSTRY, CALIFORNIA

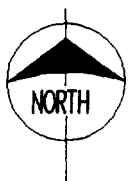
PROJECT NO. 37861.00

1/92



- APPROXIMATE BOREHOLE LOCATION (11/91)
- APPROXIMATE BOREHOLE LOCATION (2/91)
- × FENCE LINE
- APPROXIMATE MONITORING WELL LOCATION
- ⊕ APPROXIMATE BOREHOLE LOCATION

DRAWING NOT TO SCALE



CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

FIGURE

CLARIFIER LOCATION MAP

3

STOODY COMPANY
INDUSTRY, CALIFORNIA

PROJECT NO. 41184.00

5/92

**Table
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Acetone	ACT	NA	NA
1,2-Dichloroethene (total)	1,2-DCE	0.5 MCL	.005
Cis-1,2-dichloroethene	Cis-1,2-DCE	6 MCL & DHS	0.06
Ethylbenzene	EB	680 MCL	6.80
Tetrachloroethene	PCE	5 MCL/DHS	0.050
Toluene	TOL	100 DHS	1.0
Trans-1,2-dichloroethene	TRANS-1,2-DCE	10 MCL & DHS	0.10
Trichloroethene	TCE	5 MCL	0.05
Total Recoverable Petroleum Hydrocarbons	TRPH	NA	10.0
Xylene, (total)	XYL	1750 MCL	17.5
<u>Inorganic</u>			
Chromium ⁺⁶	Cr ^{tot}	50 MCL	0.5
	Cr ⁺⁶	50 MCL	0.5
Copper	Cu	1000 MCL	10.0
Nickel	Ni	150 SNARL	1.5

**Cleanup levels shown are 10 times DHS or MCL and converted to mg/kg
 $\mu\text{g/L}$: Microgram per liter, generally equivalent to parts per billion
 mg/kg: Milligram per kilogram, generally equivalent to parts per million
 SNARL: Suggested no adverse response level
 NA: Not available
 DHS: California Department of Health Services
 MCL: EPA maximum contaminant level